

## Chi Hyun Lee, Ph.D.

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Amherst, MA 01003-9304

CURRENT POSITION      **Assistant Professor of Biostatistics**      September 2018 - present  
University of Massachusetts - Amherst, Amherst, MA  
Department of Biostatistics and Epidemiology  
School of Public Health and Health Sciences

RESEARCH INTERESTS      Statistical methods for survival data, multivariate survival data, recurrent events, observational studies, biased sampling, and high-dimensional variable selection. Applications to biomedical and epidemiological research including cancer research, chronic disease, Alzheimer's disease and dementia study, and adverse child experiences and their health outcomes.

EDUCATION & TRAINING      **Postdoctoral Fellow, Biostatistics**      October 2015 - August 2018  
The University of Texas MD Anderson Cancer Center, Houston, TX  
Research topic: *Statistical Methods for Complex Survival Data*  
Advisors: Yu Shen, Ph.D. and Jing Ning, Ph.D.

**Ph.D., Biostatistics**      August 2015  
University of Minnesota - Twin Cities, Minneapolis, MN  
Dissertation topic: *Nonparametric and Semiparametric Methods for Recurrent Gap Time Data*  
Advisor: Xianghua Luo, Ph.D.

**M.A., Applied Statistics**      August 2011  
Yonsei University, Seoul, South Korea

**B.A., Applied Statistics, Business Administration**      August 2009  
Yonsei University, Seoul, South Korea

Exchange Student Program, Business Administration      August - December 2007  
Oklahoma State University, Stillwater, OK

HONORS & AWARDS      

- Mutual Mentoring Grant Award, University of Massachusetts, 2019
- Distinguished Student Paper Award, ENAR Spring Meeting, 2014
- Ph.D. Student Paper Award, School of Public Health, University of Minnesota, 2014
- Outstanding Teaching Assistant Award, Division of Biostatistics, University of Minnesota, 2013
- Dean's Ph.D. Scholarship, School of Public Health, University of Minnesota, 2011
- Dean's Honor Roll, Oklahoma State University, 2007
- Scholarship, Shinchon Yondae Association, 2008
- Jinli Scholarship, Yonsei University, Fall 2007, Spring 2008

RESEARCH  
GRANT

**Grants Completed**

**NIH/NCI, R03CA187991 (\$143,089)** 7/1/2014 - 6/30/2016

*Statistical Methods for Analyzing Data of Recurrent Infections after Hematopoietic Cell Transplantation*

Role: Graduate Research Assistant, 25% (2014 - 2015) [PI: Xianghua Luo]

RESEARCH  
EXPERIENCE

**Research Assistant, University of Minnesota**

Division of Biostatistics September 2012 - August 2015

Project topic: *Statistical Methods for Analyzing Data of Recurrent Infections after Hematopoietic Cell Transplantation*

Supervisor: Xianghua Luo, Ph.D.

School of Dentistry January 2014 - January 2015

Project topic: *Temporomandibular Muscle and Joint Disorders Pain Geography*

Supervisors: Mike T. John, Ph.D., D.M.D., M.P.H. and James S. Hodges, Ph.D.

Division of Biostatistics May - August 2012

Project topic: *Harm Reduction Curve Modeling Using the Biomarkers of Tobacco Exposures*

Supervisor: Xianghua Luo, Ph.D.

REFEREED  
JOURNAL  
PUBLICATIONS

**Statistical/Computational Journal**

1. **Lee, C.H.**, Zhou, H., Ning, J., Liu, D.D., Shen, Y. (2020). CoxPhLb: an R package for analyzing length biased data under Cox model. *The R Journal*. **12**, 118-130. doi: 10.32614/rj-2020-024.
2. **Lee, C.H.**, Ning, J., Kryscio, R.J., Shen, Y. (2019). Analysis of combined incident and prevalent cohort data under a proportional mean residual life model. *Statistics in Medicine*. **38**, 2103-2114. doi: 10.1002/sim.8098.
3. **Lee, C.H.**, Ning, J., Shen, Y. (2019). Model diagnostics for the proportional hazards model with length-biased data. *Lifetime Data Analysis*. **25**, 79-96. doi: 10.1007/s10985-018-9422-y.
4. **Lee, C.H.**, Huang, C.-Y., DeFor, T.E., Brunstein, C.G., Weisdorf, D.J., Luo, X. (2019). Semiparametric regression model for recurrent bacterial infections after hematopoietic stem cell transplantation. *Statistica Sinica*. **29**, 1489-1509. doi: 10.5705/ss.202017.0397.
5. **Lee, C.H.**, Huang, C.-Y., Xu, G., Luo, X. (2018). Semiparametric regression analysis for alternating recurrent event data. *Statistics in Medicine*. **37**, 996-1008. doi: 10.1002/sim.7563.
6. **Lee, C.H.**, Ning, J., Shen, Y. (2018). Analysis of restricted mean survival time for length-biased data. *Biometrics*. **74**, 575-583. doi: 10.1111/biom.12772.
7. **Lee, C.H.**, Luo, X., Huang, C.-Y., DeFor, T.E., Brunstein, C.G., Weisdorf, D.J. (2016). Nonparametric methods for analyzing recurrent gap time data with application to infections after hematopoietic cell transplant. *Biometrics*. **72**, 535-545. doi: 10.1111/biom.12439.

## Collaborative/Applied Papers

1. Cho, M., **Lee, C.H.** (2021). Childhood maltreatment and repeat offending in juvenile delinquents: a propensity score matched-control study. *Youth & Society*. Accepted.
2. Curry, J.L., Reuben, A., Szczepaniak-Sloane, R., Ning, J., Milton, D.R., **Lee, C.H.**, Hudgens, C., George, S., Torres-Cabala, C., Johnson, D., Subramanya, S., Wargo, J.A., Mudaliar, K., Wistuba, I.I., Prieto, V.G., Diab, A., Tetzlaff, M.T. (2019). Gene expression profiling of lichenoid dermatitis immune-related adverse event from immune checkpoint inhibitors reveals increased CD14+ and CD16+ monocytes driving an innate immune response. *Journal of Cutaneous Pathology*. **46**, 627-636. doi: 10.1111/cup.13454.
3. Cao, L., **Lee, C.H.**, Ning, J., Handy, B.C., Wagar, E.A., Meng, Q.H. (2018). Combination of prostate cancer antigen 3 and prostate-specific antigen improves diagnostic accuracy in men at risk of prostate cancer. *Archives of Pathology & Laboratory Medicine*. **142**, 1106-1112. doi: 10.5858/arpa.2017-0185-OA.
4. Showalter, J., Nguyen, N.D., Baba, S., **Lee, C.H.**, Ning, J., Klein, K., Wahed, M.A., Tholpady, A. (2017). Platelet aggregometry cannot identify uremic platelet dysfunction in heart failure patients prior to cardiac surgery. *Journal of Clinical Laboratory Analysis*. **31**. doi:10.1002/jcla.22084.

### MANUSCRIPT UNDER REVIEW

1. Pattanaik, S., **Lee, C.H.**, John, M.T., Hickey, D., Chanthavisouk, P. Is assessment of oral health-related quality of life burdensome? - an item nonresponse analysis of the oral health impact profile. Submitted to *BMC Oral Health*.
2. Castro-Pearson, S., Sur, A., **Lee, C.H.**, Huang, C.-Y., Luo, X. Nonparametric and semiparametric analysis of bivariate alternating recurrent events using the R package BivRec. Submitted to *Statistical Methods in Medical Research*

### MANUSCRIPTS IN PREPARATION

1. **Lee, C.H.**, Li, W., Shen, Y., Ning, J. A flexible regression model for restricted mean survival time.
2. **Lee, C.H.**, Ning, J. Model-free conditional independence screening of high-dimensional biomarkers.
3. Bing, M., Cho, M., **Lee, C.H.** Latent class analysis of recurrent child maltreatment and abuse.

### SOFTWARE DEVELOPMENT

1. Castro-Pearson, S., Sur, A., **Lee, C.H.**, Huang, C.-Y., Luo, X. (2020). BivRec: Bivariate alternating recurrent event data analysis. *R package*. Version 1.2.0.
2. **Lee, C.H.**, Liu, D.D., Ning, J., Zhou, H., Shen, Y. (2019). CoxPhLb: Analyzing right-censored length-biased data. *R package*. Version 1.2.0.

### PRESENTATIONS

#### Statistical Conference Meetings

1. **Lee, C.H.**, Ning, J., Shen, Y. "Analysis of restricted mean survival time for length-biased data." *12th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2019)*, London, United Kingdom, 2019. Invited talk.
2. **Lee, C.H.**, Ning, J., Kryscio, R.J., Shen, Y. "Analysis of combined incident and prevalent cohort data." *The 33rd New England Statistics Symposium (NESS)*, Hartford, CT, 2019. Invited talk.

3. **Lee, C.H.**, Ning, J., Kryscio, R.J., Shen, Y. "Regression analysis of combined incident and prevalent cohort data." *The International Biometric Society Eastern North American Region (ENAR) Spring Meeting*, Philadelphia, PA, 2019.
4. **Lee, C.H.**, Ning, J., Shen, Y. "Restricted mean survival time for right-censored data with biased sampling." *ENAR Spring Meeting*, Atlanta, GA, 2018.
5. **Lee, C.H.**, Luo, X., Huang, C.-Y., Xu, G. "Semiparametric regression analysis for bivariate alternating recurrent event data." *Lifetime Data Science Conference Meeting*, Storrs, CT, 2017. Invited talk.
6. **Lee, C.H.**, Ning, J., Shen, Y. "Analysis of restricted mean survival time for length-biased data." *The 10th International Chinese Statistical Association (ICSA) International Conference*, Shanghai, China, 2016. Invited talk.
7. **Lee, C.H.**, Ning, J., Shen, Y. "Analysis of restricted mean survival time for length-biased data." *Joint Statistical Meetings (JSM)*, Chicago, IL, 2016.
8. **Lee, C.H.**, Luo, X., Huang, C.-Y., DeFor, T.E., Brunstein, C.G., Weisdorf, D.J. "Semiparametric regression model for recurrent bacterial infections after hematopoietic stem cell transplantation." *ENAR Spring Meeting*, Austin, TX, 2016. Poster presentation.
9. **Lee, C.H.**, Luo, X., Huang, C.-Y. "Modeling gap times between recurrent infections after hematopoietic cell transplant." *ENAR Spring Meeting*, Miami, FL, 2015.
10. **Lee, C.H.**, Luo, X., Huang, C.-Y., DeFor, T.E. "Nonparametric estimation of joint distribution of time from umbilical cord blood transplantation to first infection and gap times between recurrent infections." *ENAR Spring Meeting*, Baltimore, MD, 2014. \* Distinguished Student Paper Award.

#### Invited Seminar Talks

1. **Lee, C.H.**, Ning, J., Shen, Y. "Analysis of restricted mean survival time for length-biased data." *Seminar Series*, Department of Biostatistics & Data Science, The University of Kansas Medical Center, Kansas City, KS, Feb. 2021.
2. **Lee, C.H.**, Ning, J., Shen, Y. "Analysis of restricted mean survival time for right-censored data with biased sampling." *CTSA QMC/QHC Methods Seminar*, University of Massachusetts Medical School, Worcester, MA, 2019.
3. **Lee, C.H.**, Ning, J., Shen, Y. "Analysis of restricted mean survival time for right-censored data with biased sampling." *2019 Spring Seminar Series*, University of Massachusetts College of Nursing, Amherst, MA, 2019.

#### Coauthored Conference Presentations/Posters/Abstracts

1. Liang, L., Villalobos, P., **Lee, C.H.**, Ning, J., Mino, B., Wang, W.-L., Canales, J.R., Jazaeri, A.A., Wistuba, I.I., Yemelyanova, A. "Epidermal growth factor receptor (EGFR) expression in vulvar squamous cell carcinoma." *The United States & Canadian Academy of Pathology's (USCAP) 106th Annual Meeting*, San Antonio, TX, 2017.
2. Liang, L., Villalobos, P., **Lee, C.H.**, Ning, J., Mino, B., Wang, W.-L., Canales, J.R., Jazaeri, A.A., Wistuba, I.I., Yemelyanova, A. "PD-L1 expression in vulvar squamous cell carcinoma: immunohistochemical and RNA-based In Situ hybridization analysis." *USCAP 106th Annual Meeting*, San Antonio, TX, 2017.

3. Curry, J.L., Tetzlaff, M.T., Reuben, A., Szczepaniak, R., George, S., Hudgens, C., Ning, J., **Lee, C.H.**, Torres-Cabala, C., Johnson, D., Wargo, J., Prieto, V.G., Diab, A. "Gene expression profiling of dermatologic toxicities from immune checkpoint therapy." *The Society for Immunotherapy of Cancer's (SITC) 32nd Annual Meeting*, National Harbor, MD, 2017.

TEACHING  
EXPERIENCE

**Course Instruction, University of Massachusetts**

BIOSTATS748 Applied Survival Analysis Graduate level course. (14 PhD/MS students)	Spring 2021
BIOSTATS690P Topics in Biostatistics & Data Science Graduate level course (11 MS/undergrad students), 6 lectures on survival analysis	Spring 2021
BIOSTATS690Z Health Data Science: Statistical Modeling Graduate level course (9 students)	Fall 2020
PUBHLTH490Z Statistical Modeling for Health Data Science Undergraduate level course (42 students)	Spring 2020
BIOSTATS696 Independent Study Masters level course (1 MS student)	Spring 2020
PUBHLTH490Z Statistical Modeling for Health Data Science Undergraduate level course (18 students)	Fall 2019
BIOSTATS696 Independent Study Masters level course (5 MS students)	Fall 2019
BIOSTATS748 Applied Survival Analysis Graduate level course. (11 PhD/MS students)	Fall 2018

**Teaching Assistant, The University of Texas MD Anderson Cancer Center**

GS01 1023 Survival Analysis	Spring 2017
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**Teaching Assistant, University of Minnesota**

PUBH 8442 Bayes Decision Theory and Data Analysis	Spring 2015
PUBH 7420 Clinical Trials	Spring 2014
PUBH 8442 Bayes Decision Theory and Data Analysis	Spring 2013
* Outstanding Teaching Assistant Award	
PUBH 8401 Linear Models	Fall 2012, 2013
PUBH 6451 Biostatistics 2	Spring 2012
PUBH 6414 Biostatistical Methods 1	Fall 2011 - Spring 2012
PUBH 7430 Statistical Methods for Correlated Data	Fall 2011

**Student Supervision and Advising**

Ph.D. Dissertation Advisor

Bing Miu	Current
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Honor's Thesis Advisor

Li Chen	Spring 2021 - present
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Accelerated M.S. Program Advisor

5 Undergraduate students	Spring 2019 - present
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## Dissertation/Thesis Committee

### Ph.D. Dissertation Committee (Member)

Jingyao Hou (Biostatistics Program)

Expected: March, 2021

Yibai Zhao (Biostatistics Program)

Expected: April, 2021

### M.S. Thesis Committee (Member)

Hao Fu (Department of Food Science)

Expected: May, 2021

## SERVICES

### Statistical Conference Meetings

Invited Session Chair, "Clinical trial design and data analysis with late-onset effects." *Lifetime Data Science Conference Meeting*, Pittsburgh, PA, 2019.

Contributed Session Chair, "Environmental and ecological applications" and Poster Session Judge. *The International Biometric Society Eastern North American Region (ENAR) Spring Meeting*, Philadelphia, PA, 2019.

Contributed Session Chair, "Survival analysis in epidemiology." *ENAR Spring Meeting*, Atlanta, GA, 2018.

Contributed Session Chair, "Survival analysis for clinical trial data." *ENAR Spring Meeting*, Baltimore, MD, 2014.

### Review Panels for External Funding Agencies

NIH/NINDS ZNS1 SRB-H (14) R, Special Emphasis Panel/Scientific Review Group, Oct. 2020.

### Journal Editorial Referee

Referee for *Journal of the American Statistical Association (Application & Case Studies)*, *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, *Biometrics*, *Statistics in Medicine*, *Annals of Applied Statistics*, *Lifetime Data Analysis*, *Canadian Journal of Statistics*, *Scandinavian Journal of Statistics*, *Statistical Methods in Medical Research*, *International Journal of Biostatistics*, *BMC Medical Research Methodology*, *BMC Cancer*, *Statistics and Probability Letters*, *Journal of Biopharmaceutical Statistics*, *Biostatistics & Epidemiology*, *Value in Health*, *Journal of the Korean Statistical Society*.

### Institutional Committees, University of Massachusetts

#### Department of Biostatistics & Epidemiology

Biostatistics Accelerated M.S. Program Committee (Chair), 2019-present.

Biostatistics Outreach Committee, 2020-present.

Department Personnel Committee, Spring, 2020.

Biostatistics Curriculum Committee, 2019-2020.

Biostatistics M.S. Program Development Committee, 2018-2020.

Biostatistics Program Admission Committee, 2018-2019.

Five College Statistics, UMass Biostatistics, 2018-2019.

## PROFESSIONAL ACTIVITIES

### Professional Societies

Member, American Statistical Association (ASA)

Member, International Biometric Society, Eastern North American Region (ENAR)

Member, New England Statistical Society (NESS)

## SKILLS

### Programming

R (proficient), FORTRAN, SAS and STATA (intermediate)

### Language

English (fluent), Korean (native)